Editor's note: Appealed -- aff'd Civ.No. C89-0313-J (D.Wyo. Jan. 21, 1992)

JOHN R. STAMPER
BHP PETROLEUM (AMERICAS), INC.

IBLA 87-769, 88-24 Decided August 9, 1989

Appeals from decisions of the Wyoming State Office, Bureau of Land Management, rejecting in part simultaneous oil and gas lease offer W-103261, and raising annual rental rates for oil and gas simultaneous lease W-78083.

Affirmed.

1. Oil and Gas Leases: Known Geologic Structure--Oil and Gas Leases: Noncompetitive Leases--Rules of Practice: Appeals: Burden of Proof--Rules of Practice: Evidence

   A holder of a noncompetitive oil and gas lease who challenges a determination that certain lands are within the known geologic structure of a producing oil or gas field has the burden of establishing that the determination is in error. Where the record establishes that the Secretary's technical expert has made a reasoned analysis of the available geological data, the Secretary is entitled to rely upon his expert's professional opinion, absent a showing of error by a preponderance of the evidence.

2. Oil and Gas Leases: Applications: Generally

   43 CFR 3112.2-2 places all applicants on notice that the $75 application processing fee for noncompetitive lease offers made pursuant to simultaneous drawing will not be refunded. Where a portion of appellants' lease offer was properly rejected due to partial inclusion of the tract within a known geologic structure, BLM did not commit error in its refusal to refund appellants' $75 application processing fee.

APPEARANCES: Robert J. Silverman, Esq., Denver, Colorado, for appellants; Lowell L. Madsen, Esq., Office of the Regional Solicitor, U.S. Department of the Interior, Denver, Colorado, for the Bureau of Land Management.

OPINION BY ADMINISTRATIVE JUDGE ARNESS

John R. Stamper and BHP Petroleum (Americas), Inc. (BHP), appeal from a decision of the Wyoming State Office, Bureau of Land Management (BLM), dated July 15, 1987, rejecting in part simultaneous oil and gas lease offer W-103261 for parcel WY-180, offered in the October 1986 simultaneous filing period. The lease offer encompassed 467.12 acres in T. 51 N., R. 70 W., sixth principal meridian, Campbell County, Wyoming. In its decision rejecting 400 acres contained in the offering, BLM notified appellants that the basis for the rejection was designation of the acreage as part of the Upper Minnelusa known geologic structure (KGS), designated effective May 14, 1987. The 400 acres are located in SE^ NW^, E\ SW^, SE^ sec. 6, and N\ NE^, NE^ NW^ sec. 7, T. 51 N., R. 70 W., sixth principal meridian. A lease for the remaining 67.12 acres, located at sec. 7, lots 1 and 2 in the same township, range, and meridian, was awarded to appellants effective August 1, 1987.

BHP also appeals from a decision by the Casper District Office rais-ing annual rental rates on oil and gas simultaneous lease W-78083, which encompasses 640 acres embracing S\ sec. 5, NW^ NE^, N\ NW^, SW^ NW^ sec. 8, and S\ NW^, W\ SW^ sec. 17, T. 51 N., R. 70 W., sixth principal meridian, Campbell County, Wyoming. By decision of the Wyoming State Office dated September 2, 1987, annual rental was increased from $1 to $2 per acre, as a result of inclusion of these lands within the Upper Minnelusa KGS effective July 8, 1987. As these lands adjoin and abut the lands rejected for lease by BLM in BHP's lease offer W-103261, BHP requested consolidation of the two appeals. Both appeals involve the same parties, 1/ and the same set of facts and question of law; that is, whether BLM erred in its decision to include the land embraced by appellant BHP's lease offer and leasehold within its expansion of the Upper Minnelusa KGS. As neither BLM nor appellant Stamper has objected to consolidation, and as no prejudicial circumstances are apparent, this decision resolves both appeals.

By memorandum dated July 8, 1987, the District Manager, Casper District Office, informed the Wyoming State Director that a recent geologic review of the Upper Minnelusa KGS had resulted in a decision to combine and absorb 13 KGS's within the Upper Minnelusa. 2/ Included with the memorandum was a KGS geologic review made by BLM petroleum geologist Dan Benoit. The fact that numerous producing wells existed outside then current KGS boundaries prompted the study. The decision of the Casper District Manager expanded the boundaries of the Upper Minnelusa KGS to include an area known as the "Lane Ranch Field." Whether the boundaries of this field and now the Upper Minnelusa KGS should include appellants' lease offer and leasehold is the subject of this appeal. 3/

1/ John Stamper is a party to IBLA Docket No. 87-769; BHP Petroleum is a party to both appeals.

2/ Benoit KGS review at page 2.

3/ The July 8 memorandum includes the following KGS's in the Upper Minnelusa: Bracken, Little Mitchell Creek, Gibbs, Hoover Gulch, Breaks, C-H, Allison, Twin Creek, Adon Road, Adon Road North, Wallace, OK, and an unnamed KGS.

Benoit prepared four maps in conjunction with his geologic review of the Upper Minnelusa region: a Minnelusa structure contour map, an Opeche shale isopach map, an Upper Minnelusa net porosity map, and a net hydrocarbon-bearing Upper Minnelusa porosity map. Based upon data obtained from prior geologic research in the Upper Minnelusa, from map-ping the region, and from ongoing field research, including data obtained from area well logs and drill stem tests (DST's), Benoit's study ulti-mately resulted in a recommendation to the Casper District Manager to expand the Upper Minnelusa KGS, and several others, to absorb and include 12,956.47 acres within their boundaries. According to Benoit, "the Upper Minnelusa KGS [now] encompasses hundreds of [oil] fields of various sizes and stages of depletion. The fields produce from Minnelusa and Muddy formations and constitute the main productive area in the Powder River Basin of Wyoming." 4/

The Lane Ranch Field was first placed into a KGS on April 22, 1980, as an "unnamed KGS" containing 462.62 acres. As a result of Dome Petroleum's 3-6 well, located at lot 3, sec. 6, T. 51 N., R. 70 W., the "unnamed KGS" was increased by 39.27 acres on September 26, 1980. This KGS was again expanded on May 5, 1987, as a result of an ongoing Upper Minnelusa KGS review. On May 14, 1987, this "unnamed KGS" was incorporated into the Upper Minnelusa KGS. 5/

Benoit's report recommending expansion of the several KGS boundaries was reviewed by an assistant physical science technician and a reviewing petroleum geologist prior to its release to the Wyoming State Director. By memorandum to the Casper District Manager dated July 7, 1987, the reviewer found that "the geologic basis and the resulting KGS boundary is reasonable and supportable."

Appellants charge in their statement of reasons (SOR) that Benoit erred in his conclusion that acreage encompassed by their lease offer and leasehold should be included in the Upper Minnelusa KGS. Specifically, appellants argue that "BLM erred by redefining the concept of 'trap' in the Minnelusa Formation from a geologic concept, that of numerous discrete reservoirs * * *, to an administratively convenient concept, that of 'a single trap composed of many laterally discontinuous vertically stacked hydrocarbon-bearing reservoirs'" (SOR at 4). Appellants claim that "BLM's Upper Minnelusa KGS review contains numerous fatal errors of geologic interpretation" (SOR at 6), and that "the KGS in the Lane Ranch Field was improper because there was no well in the Lane Ranch Field capable of producing hydrocarbons at the time the KGS was designated" (SOR at 7). Appellants argue that BLM erred in the preparation and use of the Upper Minnelusa Porosity Map, and that BLM's geologic conclusions are unsound, as they are based in large part upon the porosity map. 6/ Finally, appel-
lants allege that BLM based its decision to include portions of parcel

4/ BLM's Answer to appellants' Geologic Report at 19.
5/ Id. at 2.
6/ Appellants' reply (Reply) to BLM's Answer at page 6, filed with the Board on May 16, 1988. BLM filed a response to appellants' Reply (Response) on June 14, 1988.

WY-180 within a KGS upon competitive interest in the tract, rather than sound geologic data (Reply at 7). Appellants request that if the Board finds no error in BLM's inclusion of this tract with the Upper Minnelusa KGS, that the $75 filing fee paid by each of the 369 applicants for the simultaneous drawing for oil and gas lease W-103261 be refunded. Id. at 8. In opposition to BLM's geologic conclusions, appellants have submitted a geologic report by Ronald G. Brown, regional geologist for BHP (Brown Report).

The KGS review prepared by Benoit describes the geologic structure of the Upper Minnelusa Formation as follows:

> [T]he Upper Minnelusa Formation in the eastern Powder River Basin, Wyoming comprises a shoreline complex which includes eolian and marine shoreline sands, carbonates, evaporites, and shales. The intercalation [(interbedding)] of the eolian and marine deposits resulted from offshore and alongshore wind transport of sand during marine regressions coupled with subsequent [spreading or extension of the sea over land areas] which submerged the dunes, and gradual [sinking] of the Lusk Embayment [7/] which preserved the deposits. The vertical section is characterized by alternating sandstones and carbonates, interrupted by minor marine regressions, with major diastems [8/] atop the carbonates, and diastems of lesser time significance are at the top of the sands, as dunes were later reworked by the encroaching seas. Generally, the main portion of the typical carbonate-sand sequence is present in any one place; however, the eolian dunes may not be present.
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> In the Upper Minnelusa Formation, George (1984) recognizes three distinct depositional sand cycles that contain hydrocarbon accumulations; the A, B, and C. These three depositional cycles represent a shoaling-upward sequence of subtidal carbonates and eolian sandstone followed by a rising sea level which deposited carbonates and evaporites of the next cycle.

With regard to the etiology of petroleum in the Upper Minnelusa, the report lists several theories: "As the Powder River Basin evolved, the rocks of the Upper Minnelusa were tilted westward, and according to [Fryberger, 1984] oil may have migrated into the Minnelusa from the Phosphoria Formation." Id. According to Benoit, oil was trapped at "the unconformity with the overlying Opeche Shale, and in structural closures." Referring to research by Shier and Moldzio (1984) which concludes that the

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7/ According to Bates and Johnson, Glossary of Geology, American Geological Institute (Falls Church, Virginia: 1980), 201, an embayment is "a downwarped area containing stratified rocks, either sedimentary or volcanic or both, that extends into a terrain of other rocks."

8/ A diastem is a relatively short interruption in sedimentation, involving only a brief interval of time, with little or no erosion before deposition is resumed. Id. at 172-73.

trapping in the Minnelusa Formation resulted exclusively from deposition in a sabkha 9/ setting, Benoit infers that "[a] majority of traps * * * are stratigraphic in origin and derive from the intercalation of the eolian and marine deposits of the original depositional system."

Benoit thus concludes that the hydrocarbon reservoirs in the Upper Minnelusa are predominantly stratigraphic:

> [T]heir spacial arrangement fits a stratigraphic model of laterally discontinuous and vertically stacked sand horizons bounded horizontally and vertically by permeability/porosity barriers and vertically by discontinuous impermeable zones. This kind of stratigraphy has been interpreted as essentially containing a single trap composed of many laterally discontinuous vertically stacked hydrocarbon-bearing reservoirs (USDI Memo, Horton and Godwin, October 7, 1986).

Brown argues that "[t]he evidence disagrees with the Godwin and Horton conclusion that the Minnelusa Reservoirs are vertically stacked" (Brown Report at 3). According to Brown,

> [o]nly in a deminimus number of cases are producing reservoirs stacked vertically. The only Minnelusa fields in which such stacking occurs have anticlinal closure. Vertical stacking occurs only in a few structural traps identified to date in the Minnelusa Formation, but does not normally occur in the stratigraphic traps which make up the vast majority of Minnelusa reservoirs.

Id.

Brown's exhibit 1 is a subcrop map showing his theory of the location of A, B, and C sands. The map depicts the northern limit of A sandstone as well south of the disputed tract; B sandstones lie to the south and east, nearer the tract, but not under it; C sandstones are limited to two small areas interspersed among the B sandstone area. With their geologic report,

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9/ A sabkha, according to Bates and Jackson, id. at 550, is

"(a) A supratidal environment of sedimentation, formed under arid to semiarid conditions on restricted coastal plains just above normal high-tide level. It is gradational between the land surface and the intertidal environment. Sabkhas are characterized by evaporite-salt, tidal flood, and eolian deposits, and are found on many modern coastlines, e.g., Persian Gulf, Gulf of California. (b) In the rock record, a sabkha facies may be indicated by evaporites, absence of fossils, thin flat-pebble conglomerates, stromatolotic laminae, desiccation features such as mud cracks, and diagenetic modifications, for example disrupted bedding, dissolution and replacement phenomena and dolomitization. The sabkha environment may have been significant in the formation of certain petroleum and sulfide-mineral deposits."
(References omitted).

appellants have also a map showing "Net Hydrocarbon Bearing Porosity in the Lane Field Producing Zone" (exhibit 4), a structure map showing the top of the B sandstone (exhibit 6), and three maps showing structural cross-sections between designated wells and drilling sites (exhibits 5, 7, and 8), as well as several treatises used as source materials by both BLM and appellants. 10/

Brown alleges that the structural cross-section maps indicate that the limits of the producing zone do not extend beyond the unnamed KGS boundaries in effect prior to the Minnelusa study. Exhibit 5, according to Brown, is a structural cross-section using all three originally productive wells, and "shows clearly the thin fractured zone that is within a dolomite overlying the B sandstone * * * only productive in the Lane Ranch Field" (Brown Report at 15). Brown contends that the fractured zone "overlies 16 feet of impermeable dolomite which separates it completely from the Minnelusa 'B' sand." Id. Brown's exhibit 4 depicts the Lane Ranch field as an isolated anticlinal structure in the gross middle B dolomite, with dry holes separating the three original producers from other wells having a net hydrocarbon bearing porosity above zero.

Exhibit 5 depicts Brown's mapping of the underlying structure between the three producers in the original "unnamed KGS": Dome Petroleum 1-36 Lane Ranch, at NE^ SE^ sec. 36, T. 52 N., R. 71 W.; Dome Petroleum 1-31

10/ Of usefulness in placing development of geologic knowledge of the Northern Powder River Basin in perspective is the following introductory comment from an article by John F. Trotter, entitled "The Minnelusa Revisited," published in the 1984 Wyoming Geological Association Guidebook:

"When the Northern Powder River Basin guidebook was published, 30 Minnelusa oil fields had been discovered in the northern area (Trotter, 1963). By 1970, the number had grown to 65 (Van Fossen, 1970). By June 1984, the number had increased to 175 and several accumulations had been discovered farther south in related rocks of the southern Powder River Basin and the northern Denver basin. * * *

"Many exploration concepts discussed in the 1963 and earlier guidebooks have been and are being used successfully. But as exploration and development have continued, some concepts concerning stratigraphic relationships, correlation of rock units, the nature of the traps and even the depositional setting and history of the Minnelusa Formation have needed revision as more and more data have allowed better understanding of the Pennsylvanian-Permian rocks. For instance, in the paper on the 'Minnelusa Play' (Trotter, 1963) considerable emphasis was placed on the erosional pattern of the Minnelusa in association with low order pre-Opeche anticlines. In the Powder River Basin, except for the deformed rim, anti-clines resulting from structural deformation are exceedingly rare. Structural maps drawn on various marker beds may illustrate many anticlinal closures, noses and synclinal features but they are merely the result of draping of sediments over topographies beneath unconformities or the direct result of the depositional fabric. Few result from structural deformation. The clarification has been needed."
Id. at 127.

Lane Ranch, NW^ SW^ sec. 31, T. 52 N., R. 70 W.; and Dome Petroleum 3-6 Lane Ranch, NE^ NW^ sec. 6, T. 51 N., R. 70 W. Exhibits 7 and 8 extend the structural cross-section mapping out from these original producers to nonproducing wells. Exhibit 8 depicts a cross-section from the Dome Petroleum 3-6 northeastward to the NCRA 1 Federal Mowry Well, a nonproducer in SW^ SE^ sec. 31, T. 52 N., R. 70 W.; and southwestward to the Dome Petroleum 1-6 Trent, a nonproducer in SW^ NW^ sec. 6, T. 51 N. R. 70 W. Exhibit 7 maps in a southeastward direction beginning with the two northernmost producers in the original KGS, the Dome Petroleum 1-36 Lane Ranch and the Dome Petroleum 1-31 Lane Ranch, and continuing across the southwest corner of sec. 31, T. 52 N., R. 70 W. to nonproducer Dome Petroleum 5-31 Lane Ranch Federal, SE^ SW^ sec. 31, and slicing sec. 6, T. 51 N., R. 70 W., diagonally from Dome Petroleum 3-6 Lane Ranch to two nonproducers, the Wessely Energy 1-6 Sheridan Federal at SW^ NE^ sec. 6, and Mitchell Energy 34-6 Sawmill-Federal at NE^ SW^ sec. 6.

Although plugged and abandoned, at least four wells in sec. 6, T. 51 N., R. 70 W., including two shown on Brown's exhibit 7 as nonproducers, produced free oil, according to BLM. 11/ These wells, according to Benoit, justify extension of the KGS boundaries, as they are "presumptively productive" (Answer to Brown Report at 21). Specifically, Wessely Energy's No. 1-6 Sheridan Federal at a DST of 8,649-74 feet, recovered 60 feet of oil and 974 feet of water. 12/ Mitchell Energy, at a DST of 8,722-46 feet, recovered 558 feet of oil, 280 feet of oil cut water, and 3,061 feet of slight oil cut water. NCRA's No. 1 Federal Slavik and Mitchell Energy's No. 43-6 Sawmill Federal are also listed by Benoit as recovering oil, oil cut water, and varying combinations of oil cut mud and mud cut oil. Id.

11/ In response to appellants' SOR, Benoit provided an "Answer to Appellant's Statement of Reasons," and an "Answer to Appellant's Geologic Report," and exhibits. Three isopach maps (exhs. 2A, 2B, and 7) of secs. 27 through 34 of T. 52 N., R. 70 W., and secs. 3 through 19 and 15 through 18 of T. 51 N., R. 70 W., were included. Exhibit 2B maps net porosity; exhibit 2A depicts net hydrocarbon-bearing Upper Minnelusa porosity and drill stem test data showing extended KGS boundaries. Exhibit 7 adds the location of lease W-103261 to the net hydrocarbon-bearing porosity isopach, relative to existing and extended KGS boundaries. BLM's exhibit 12A is a map of the Casper district showing the Minnelusa Test Study Area and mapping area 776 in relation to the entire district. Exhibit 12B charts the Minnelusa Study Area from Dec. 1, 1986, through June 17, 1987, and shows pre-Minnelusa study KGS's and those added as a result of the study.

12/ See Benoit's Answer, exhibit 2a; see also, DST data recorded on Brown's exhibit 7. The Answer to the Brown Report at page 2, describes the use of DST's in BLM's geologic review as follows:

"As part of the data base of this geologic review, drill stem tests (DST's) were used in the * * * evaluation process. A DST tests the fluid content and reservoir characteristics of the formation or zone under investigation during drilling operations. A tool is attached to the drill pipe and lowered into the hold opposite the zone of interest. Packers are used to isolate the zone, thus allowing a sample of formation fluid to flow into the tool; the fluid is then recovered from the test tool and analyzed. In addition, downhole pressure data is gathered during the test."

With regard to the DST data, Benoit states:

> Exhibit 2A demonstrates that all wells inside the zero (0') net hydrocarbon-bearing isopach line either completed a producing well or DST'd the Upper Minnelusa interval. All recovered varying amounts of hydrocarbons. Also, all wells outside the zero-foot isopach line either did not test the interval or did not recover hydrocarbons from the zone if it was tested.

(Answer to Brown Report at 3).

Benoit also provided an overlay to appellants' exhibit 1, which disputes Brown's conclusion that A, B, and C sandstones are not vertically stacked, and places all lands embraced by BHP's lease offer and leasehold well within the boundaries of the western line of known B sandstone production. 13/

In the Answer, at page 4, Benoit states the basis for the revised KGS boundary:

> The Upper Minnelusa KGS addition boundary was based on the location of the zero foot net hydrocarbon-bearing isopach line. All acreage "inside" the zero foot isopach line was placed in KGS. In addition, all 40 acre parcels or smallest legal subdivisions (lots) which the zero-foot line passed were placed into KGS.

Dry holes barren of oil or gas were not included within Minnelusa KGS additions. Dry holes containing oil or gas which were plugged due to unfavorable economic conditions were included in the KGS. Id.

[1] Citing Arkla Exploration Co. v. Watt, 562 F. Supp. 1214 (W.D. Ark. 1983), aff'd, Arkla Exploration Co. v. Texas Oil & Gas Corp., 734 F.2d 347 (8th Cir. 1984), appellants dispute Benoit's conclusions that the Upper Minnelusa reservoirs are a "single trap," and argue that BLM has chosen to expand the Minnelusa Formation to a single trap for administrative convenience (SOR at 5). The Brown Report at page 3, states that the "Upper Minnelusa producing reservoirs are laterally discontinuous isolated traps." According to Brown,

> The typical Minnelusa trap occupies 200 acres more or less, is bounded updip and laterally by an impermeable barrier(s), and is bounded downdip by either an oil water contact or an impermeable barrier. Producing fields are typically well defined by dry holes and are separated by often large non-productive areas.

Id. at 3-4. Brown contends that the expansion of a single KGS over a large area to include "numerous geologic traps" is justified if:

13/ See appellants' exhibit 1 with BLM overlay, Answer to Brown Report, exhibit 9.

> (1) a regional trapping mechanism can be described which geologically justifies the KGS and establishes definite boundaries for the area included; (2) identification of individual geologic traps would serve no purpose because the exist-ing traps are so numerous and overlapping that a well drilled anywhere within the KGS can be predicted to encounter a hydrocarbon bearing reservoir with a very high expectation of success (i.e., 90+), even though the zone or zones which will produce hydrocarbons may not be predictable in advance; and (3) production has been established and the actual drilling data in the KGS area continue to support the conclusions drawn.

(Brown Report at 8).

A KGS is defined as "technically the trap in which an accumulation of oil or gas has been discovered by drilling and determined to be productive, the limits of which include all acreage that is presumptively productive." 43 CFR 3100.0-5(1). A KGS designation recognizes the existence of a continuous entrapping structure on some part of which there is production. Lloyd Chemical Sales, Inc., 82 IBLA 29 (1984). The initial boundaries of a KGS are not preclusive of the possibility of future changes. Robert G. Lynn, 61 IBLA 153 (1982). As long as it can be determined that the land is "presumptively productive," it is not necessary that there be production within or in the immediate vicinity of land designated as part of the KGS, or that future productivity be guaranteed. R. K. O'Connell, 85 IBLA 29 (1985); Robert G. Lynn, supra.

While the parties appear to argue differing geological interpretations, the underlying argument is one of legal categorization; that is, whether BLM may designate a class of similar geologic structures as a "trap" based upon a presumption of production, grouping them for administrative convenience and not on the basis of proven geologic fact. In Angelina Holly Corp. v. Clark, 587 F. Supp. 1152 (1984), the appellant argued that BLM's conclusion that there was a "reasonable probability" that the land in question was underlain by a reservoir of a producing oil and gas field was an improper standard for determining the existence of a KGS, and that the standard should be whether the land in question is underlain by a "structure" as defined by scientific geological standards, implying that production be guaranteed. The U.S. District Court for the District of Columbia held:

> Plaintiff * * * misunderstands the standard that is applied by Interior when determining the existence of a KGS. When Congress enacted the Leasing Act, the Secretary was afforded a significant amount of discretion in determining where a KGS is located. The reasons for this are the difficulties in determining the limits of a productive field. See generally, Oil Leasing Lands, Hearings Before the Committee on the Public Lands of the House of Representatives on H.R. 3232 and S. 2812, 65th Cong., 2d Sess. The Survey has published a circular which describes to the public the procedures which its geologists must employ when

> determining the existence and limits of a KGS. U.S.G.S. Circular 419 (1959). The circular defines a KGS as "the trap, whether structural or stratigraphic, in which an accumulation of oil or gas has taken place. The limits of such structure include all acreage that is [sic] presumptively productive." Id. (emphasis added). This decision comports with the definition in 43 C.F.R. § 3100.0-5(a). * * * Quoting from a decision by the Secretary, the circular notes:
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> > The defining of the boundaries of the geological structure of producing oil and gas fields, under authority of section 32 of the Leasing Act is for administrative purposes and is not for geological character. Accordingly, such boundaries are not to be taken as absolutely and accurately showing the extent in each instance of the geological structure producing oil or gas, but they may later be extended or reduced to accord with the facts.
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> Circular 419, quoting from Columbus C. Mabry, 55 I.D. 530 (1936) (Syllabus). Because of the difficulty in defining, with absolute certainty, the limits of a particular structure, the Secretary includes those areas where oil or gas have been discovered by drilling as well as those areas that are presumed to be productive. [Emphasis supplied.]

Id. at 1155-56.

In Carol Ann Hoffman, 100 IBLA 139, 141-44 (1987), this Board addressed the precise issue whether the Arkla decision precludes BLM from merging several KGS's, despite the presence of dry holes, where there is evidence suggesting the presence of an underlying stratigraphic trap. Our conclusion in that case was that the merger of several KGS's on this basis is "wholly compatible with Congressional intent, case law, and industry practice." Id. at 144. See also Beard Oil Co., 99 IBLA 40, 45-46 (1987).

Benoit's isopach maps, showing that all wells inside the zero-foot net hydrocarbon-bearing isopach line either completed a producing well or drill stem tested the Upper Minnelusa interval, recovering varying amounts of hydrocarbons, speak for themselves. That all wells within the zero-foot net hydrocarbon-bearing isopach line have not produced commercially is not dispositive. It is not necessary for wells to show oil in commercially productive quantities to be deemed "presumptively productive." See Beard Oil Co., supra at 47. As in Beard, appellants have failed to establish that limited production was attributable to a lack of productive capacity, rather than other factors. Further, inclusion within the KGS of all 40-acre parcels or lots through which the zero-foot line passed is consistent with Arkla, as the Court of Appeals held in that case that, where geologic information supports the finding of a KGS, BLM may not ignore such information based upon arbitrary considerations. Arkla Exploration Co. v. Texas Oil & Gas Corp., 734 F.2d 347, 360 (8th Cir. 1984).

Appellants argue that BLM's Upper Minnelusa KGS review contains fatal errors of geologic interpretation, and, as producing wells in the Lane Ranch field have watered out, KGS boundaries should shrink rather than expand. In Vernon & Rita Benson, 48 IBLA 64, 68 (1980), the Board noted that "[t]he fact that there has been a cessation of production or abandonment of wells in a given field is not of itself sufficient to warrant a redefinition of the structure or the revocation of the classification of the field in the absence of a proper showing that the area does not in fact contain valuable deposits of oil or gas." The Board further stated:

> Similar holdings occur in earlier decisions of this Department. For example, in Moss v. Schendel (A-6287, Mar. 24, 1924, unreported), the Department held: "The term 'producing oil or gas field' as used in section 13 of the leasing act must be construed to include areas in which there has been production and which are capable of producing more oil * * *." Accord, Kermit D. Lacy, 54 I.D. 192, 193-4 (1933); John F. Richardson, 56 I.D. 354, 358 (1938); George C. Vournas, 56 I.D. 390, 394 (1938). It is not the policy of this Department to redefine a geologic structure until all sands or formations have been exhausted or proved barren. K. S. Albert, A-24514 (Oct. 28, 1947).

Brown's dispute with Benoit's geologic conclusions concerns Benoit's conclusion that the Upper Minnelusa region is a stratigraphic trap. Brown alleges, in his geologic report at page 15, that "Lane Ranch Field produced from a thin fracture zone in the Middle B dolomite which is not in communication with the B Sand shows used to extend the KGS onto Lease W-103261." He further states:

> Sound geologic practice would require a study of the field (trap) for which a KGS determination was to be made including as a minimum: (a) determination of the producing interval; (b) correlation of the producing interval to oil or gas shows in surrounding wells; (c) identification of the trap type; and (d) review of the structural setting to identify the downdip limits of the field.

Id. Brown's conclusion that the Lane Ranch Field has watered out is based upon the premise that a "trap" must be limited to a specific geo-logic structure and may not be stratigraphically determined. Given that this argument has been rejected, appellants have not shown that all sands or formations have been exhausted and that the area is barren of all valuable deposits of oil.

Finally, appellants, in their May 17, 1988, reply at page 7, allege error by BLM in considering the level of competitive interest in an area when making KGS determinations. Appellants allege that "[s]ince geologic data provides the data which the BLM can consider in making KGS determinations, the BLM has no authority to consider the level of competitive interest in an area." The court in Arkla Exploration Co. v. Texas Oil &

Gas Corp., supra, however, deemed actual competitive interest in the Fort Chaffee area to be noteworthy:

> Perhaps even more serious than the Secretary's failure to make use of the available geologic data and expertise is his failure to consider actual competitive interest in the Fort Chaffee area shown by Arkla and other oil companies. Arkla had made numerous inquiries to BLM about obtaining leases on Fort Chaffee. * * * Prior to the issuance of the leases in question, Arkla had bid on various drainage leases within Fort Chaffee. In one sale, Arkla's bids of $151.51 per acre on two sections within the Fort were rejected as too low. These sections were but one section away from the TXO lease area, * * * which was leased for only $1 per acre. There also was other information available to USGS giving them notice of the considerable interest in the Fort Chaffee lands. * * * In light of this, the use of an arbitrary mileage system ignores the Congressional intent to promote competitive leasing within known geological structures of producing oil and gas fields. [Footnotes omitted.]

734 F.2d at 360. While we do not read Arkla to support a KGS determina-tion solely on the basis of competitive interest, such are not the facts here. Arkla suggests that where there is significant competitive inter-est in a tract, a failure by BLM to study the geology of the area will be reversible error.

The evidence as a whole does not support a finding that Benoit's geologic conclusions are in error. See note 10, supra. The quality and volume of exhibits submitted to the Board attests to the diligence with which both experts have approached their task. Appellants, however, have not established that BLM's technical expert has not made a reasoned analysis of the available geological data, nor have they shown error in his conclusions by a preponderance of the evidence. 14/

[2] Appellants allege that the $75 filing fee paid by each of the 369 simultaneous bidders on tract W-103261 should be refunded, as the tract was ultimately excluded from participation in simultaneous leasing (Appellants' Reply at 8-9). While appellants have no standing to request a refund on behalf of the other 368 bidders, 15/ the Board will consider

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14/ For sake of brevity, after review of all exhibits submitted by the parties, the Board has limited the text of this decision to include reference to those exhibits of highest relevance and least redundance. To the extent that appellants advanced proof, theories or arguments not specifically mentioned in this opinion, including their assertion that the net porosity map prepared by Benoit contains error, those arguments were not sufficiently persuasive to overcome the weight of the evidence as a whole, which, by a preponderance, supports expansion of the Upper Minnelusa KGS to include designated portions of parcel WY-180 and lease W-78083.

15/ In Shaw Resources, Inc., supra, this Board stated the following with respect to the right of an applicant to seek a refund of fees tendered with a simultaneous oil and gas lease application:

whether BLM should refund appellants' $75 fee. 43 CFR 3112.2-2 provides for filing fees and rentals with simultaneous oil and gas lease applications as follows:

> Each Part B application form shall, when filed, be accompanied by a single remittance. The remittance shall consist of an amount sufficient to cover for each parcel included on the Part B application form a nonrefundable filing fee of $75 and the first year's rental payment. Failure to submit either a separate remittance for each Part B application form or an amount sufficient to cover all the parcels on each Part B application form, or both, shall cause the entire filing to be deemed unacceptable. [Emphasis supplied.]

In Shaw Resources, Inc., 79 IBLA 153, 180, 91 I.D. 122, 137 (1984), this Board reconsidered a prior decision indicating that, where an application is rejected, all filing fees may be retained. In that case we overruled the earlier decision holding that all filing fees were properly retained, and held that "filing fees should be returned after assessing a $75 processing charge per application form." Id. (emphasis supplied). While 43 CFR 3112.3 (d) provides that "[t]he filing fee for a parcel removed from the parcel list by the Bureau shall be returned," this regulation is not applicable to rejection of an application after a priority drawing for a listed parcel.

In Donnie R. Clouse, 51 IBLA 221, 222 (1980), where an oil and gas lease offer was rejected due to inclusion of the tract within the Horseshoe Canyon-Verde KGS, and the appellant had followed all rules and regulations in making the offer, appellant alleged delay to his detriment on the part of BLM in classifying the lands within the KGS, and demanded that all filing fees received for the tract be refunded as consolation. In that case the Board stated:

> Land within a known geologic structure of a producing oil or gas field may be leased only after competitive bidding under the provisions of Part 3120 of 43 CFR, and appellant's noncompetitive lease offer is properly rejected where, before the lease is actually issued, BLM determines that the land is within the known geologic structure of a producing oil or gas field. 30 U.S.C. § 226(b) (1976); 43 CFR 3101.7-2. Pauline C. Lebsack, 50 IBLA 361 (1980); Curtis Wheeler, 31 IBLA 221 (1977); Geral Beveridge,

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fn. 15 (continued)

"So long as any application under a specific application form remains unrejected, an applicant's right to seek return of fees tendered therewith continues. Where, however, all applications filed under a single form are rejected, * * * an applicant has a 30-day period to appeal. See 43 CFR 4.411(a). * * * Since the record before us contains no evidence that appellant either timely appealed from rejections of its applications under either the Colorado or Montana application forms, or, alternatively, timely sought return of those filing fees, it is now barred from attempting to recover any filing fees connected therewith."

> 14 IBLA 351, 81 I.D. 80 (1974). That appellant followed all the applicable rules and regulations does not vitiate this conclusion. Moreover, the regulations make no provisions for consolation in the event an oil and gas lease offer must be rejected, and 43 CFR 3103.2-1 states that filing fees will be retained as service charges and cannot be returned to offerors. That BLM delayed in getting a structure report from the Geological Survey does not aid appellant in his quest for a non-competitive lease. See Minetta A. Miller, 17 IBLA 245 (1974); Silver Monument Minerals, Inc., 14 IBLA 137 (1974); F. William Johnson, Jr., 3 IBLA 232 (1971); cf. McDade v. Morton, 353 F. Supp. 1006 (D.D.C. 1973) aff'd, 494 F.2d 1156 (1974).

Id. As appellants' lease application was properly rejected, and as 43 CFR 3112.2-2 establishes the fee is an application processing fee and places all applicants on notice that the fee will not be refunded, we find no error by BLM in its refusal to refund appellants' $75 processing fee.

In conclusion, appellants have not established by a preponderance of the evidence that the Wyoming State Office erred in its July 15, 1987, decision to classify lands embraced in part by simultaneous oil and gas lease offer W-103261 within the Upper Minnelusa KGS, nor has BHP established that BLM erred in its September 2, 1987, decision raising annual rental rates for oil and gas simultaneous lease W-78083 as a result of the Upper Minnelusa KGS expansion. Appellants have not established that they are entitled to a refund of the simultaneous lease application filing fee, nor that they are entitled to any other relief as a result of these appeals.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decisions appealed from are affirmed.

Franklin D. Arness
Administrative Judge

I concur:

Will A. Irwin
Administrative Judge